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MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER

CHANG, VICTOR S

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MILES STEPHEN CAIN and IAIN THOMAS ARTHUR FINDEN

Appeal 2009-012094
Application 10/549,877
Technology Center 1700

Decided: April 28, 2010

Before EDWARD C. KIMLIN, TERRY J. OWENS, and
PETER F. KRATZ, *Administrative Patent Judges*.

KRATZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1-3, and 20-47. We have jurisdiction pursuant to 35 U.S.C. § 6. Oral arguments were presented on April 13, 2010.

Appellants' claimed invention is directed to a fabric comprising an impervious barrier layer interposed between the fabric substrate and a cured adhesive silicone gel layer, wherein the barrier layer is bonded to one side of the fabric substrate and the barrier prevents absorption of the silicone gel into the fabric substrate,

Claim 1 is illustrative and reproduced below:

1. An adhesive fabric capable of adhering to the skin of a body, comprising: an impervious barrier layer bonded on one side of a fabric substrate and a cured adhesive silicone gel layer bonded to the barrier layer whereby the barrier prevents absorption of the adhesive silicone gel coating into the fabric substrate.

The Examiner relies on the following prior art references as evidence in rejecting the appealed claims:

Furuno	6,200,195 B1	Mar. 13, 2001
Nakamura	2002/0120972 A1	Sep. 5, 2002

The Examiner maintains the following ground of rejection:

Claims 1-3 and 20-47 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura in view of Furuno.

We affirm the Examiner's rejection.

At the outset, we note that Appellants argue claim 1 and the rejected dependent claims together therewith as a group (App. Br. 4). Accordingly, we select claim 1 as the representative claim.

The Examiner has found that Nakamura teaches an article of clothing (fabric) 2, such as a sock, including a layer sheet 1 laminated thereto for sag prevention, wherein the layer sheet 1 comprises a hot melt film layer 11 and an adhesive layer 12 (Ans. 3; Nakamura, paras. 0001, 0028, 0052, and 0053;

Fig. 2). The Examiner has found that Nakamura can include polymeric materials, such as silicone, in the adhesive layer 12 (Ans. 3; Nakamura, para. 0037). Appellants do not dispute the aforementioned findings of the Examiner (*see generally* App. Br. and Reply Br.).

Nakamura discloses that the film layer faces the cloth (paras. 0018 and 0052; Fig. 2). Nakamura teaches that the “film layer has flexibility and a strength sufficient to maintain itself without being cracked or broken while it is welded on the article of clothing” and can have a thickness of “approximately 30-200 μm ” (paras. 0041 and 0034).

Nakamura teaches that, unlike a traditional sag prevention member wherein liquid silicon gum may exude onto a stocking outer surface, the use of a hot-melt film layer as employed therein “avoids liquid silicone gum from being exuded onto the outer surface of the cloth ...” (paras. 0066, 0002 and 0003).

In a preferred embodiment, Nakamura teaches that vent holes can be provided in the layer sheet to “maintain breathable condition” (para. 0036).

Furuno teaches that silicones have low skin irritation characteristics and that silicone gel adhesive layers are known to be used in pads for adhering to skin (col. 2, l. 63 - col. 3, l. 14).

Appellants disclose their barrier layer “prevents absorption of the adhesive silicone gel coating into the fabric substrate” (Spec. 1: 24-28). The barrier layer thickness is disclosed as being chosen to ensure that an impervious layer is formed; that is, thick enough so that fabric surface hairs are encapsulated so they can not act as wicks, such as 0.05 to 0.5 mm (50 - 500 microns) thick (Spec. 2: 15-25; 11: 18-23). In this regard, Appellants’ Specification conveys that the impervious barrier layer functions so the

silicone gel does not penetrate through the fabric surface; that is, the barrier layer is impervious to the silicone gel coating penetrating its thickness (Spec. 8: 17-19; 11: 18-24; 13: 11-15).

In introducing an amendment to claim 1 adding the term “an impervious” before “barrier layer” via an Amendment filed on January 08, 2008 (Amend. 'Jan. 08)¹, Appellants stated that:

Moreover, claim 1 has been amended to recite that the barrier layer is impervious. Although this modification is redundant in that the barrier layer is already required to prevent absorption of the adhesive silicone gel coating, we add the term to reinforce the distinctions between the recited claims and EP '310.
Amend. 'Jan. 08, p. 8.

Based on the teachings of the applied references, the Examiner maintains that the hot-melt film layer 11 of Nakamura corresponds to the claimed barrier layer and would have been impervious to silicon gel or silicon gum adhesive as is taught or would have been obvious to employ in the adhesive layer 12 of Nakamura (Ans. 3-7; Nakamura, para. 0066).

Appellants, on the other hand, contend that Nakamura does not contemplate that the film layer 11 functions as a barrier layer to prevent absorption of anything, such as preventing the absorption of the adhesive layer of Nakamura, and that the claim 1 “impervious” limitation precludes vent holes as employed by Nakamura.

ISSUE

A principal issue before us is:

¹ Also, see Request for Continued Examination (RCE) Transmittal (Item 1).

Have Appellants identified harmful error in the Examiner's obviousness rejection over the combined teachings of Nakamura and Furuno based on the asserted distinctions between the barrier layer requirements specified by appealed claim 1 and the film layer taught or suggested by the applied prior art, including Nakamura, given the totality of the evidence of record?

We answer this question in the negative.

DISCUSSION

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l. Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

Appellants argue that Nakamura “does not disclose the application of an uncured adhesive layer to an article of clothing, either directly or indirectly, and, as such, does not contemplate a barrier layer to prevent the absorption of anything” (App. Br. 4). However, representative claim 1 is drawn to a fabric including a cured adhesive layer and is not drawn to a process of applying an uncured adhesive layer to an article of clothing. Moreover, Appellants conjecture about what Nakamura may have contemplated does not persuasively explain how the Examiner erred in applying the teachings of Nakamura to the claimed subject matter. In this regard, Appellants have not articulated why it would not have been reasonable to conclude, as did the Examiner, that the non-cracked hot-melt

film layer 11 of Nakamura constitutes a layer located between the adhesive layer 12 and the cloth (fabric) 2 that is capable of serving as a barrier layer; namely, a layer capable of preventing or inhibiting adhesive layer transfer to the cloth such as Nakamura's discussed prevention of "liquid silicone gum from being exuded onto the outer surface of the cloth" (paras. 0066, 0002 and 0003).²

We further note that Nakamura teaches that the film layer 11 can have a thickness of "approximately 30-200 μm " (paras. 0041 and 0034), which layer thickness substantially corresponds with the claimed barrier layer's disclosed thickness of 0.05 to 0.5 mm (50 - 500 microns), as described in the subject Specification as generally being typical for obtaining imperviousness of the barrier layer (Spec. 2: 15-25; 11: 18-23). Thus, the argument with respect to a lack of a layer in Nakamura that could serve as a barrier, as claimed, is not persuasive.

Concerning the preferred embodiment disclosure of vent holes in the layer sheet provided by Nakamura (para. 0036), we do not agree with Appellants' contention that such disclosure precludes an interpretation of Nakamura's taught or suggested film layer as being an impervious barrier, as is recited for the here-claimed barrier layer. Appellants' argued interpretation of this claim term as calling for a barrier layer that is "[i]mpossible to penetrate" throughout the extent of the layer is untenable given the subject Specification (App. Br. 5; Reply Br. 2-3).

² Appellants do not furnish any argument specifically directed to the Examiner's determination of the obviousness of employing silicone gel as a silicone adhesive in the layer 12 of Nakamura based on the combined teachings of Nakamura and Furuno (Ans. 3-4). See the Appeal Brief and the Reply Brief, in their entirety.

In this regard, it is well settled that the United States Patent and Trademark Office (PTO) is obligated to give claim terms their broadest reasonable interpretation, taking into account any enlightenment by way of definitions or otherwise found in the specification. *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007) (“[T]he PTO must give claims their broadest reasonable construction consistent with the specification . . . Therefore, we look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation.” Of course, the interpretation of the claim language must be “reasonable in light of the totality of the written description.” *In re Baker Hughes, Inc.*, 215 F.3d 1297, 1303 (Fed. Cir. 2000). In *Baker*, 215 F.3d at 1302, it was held that “hydrocarbon” does not include hydrocarbon gases where “[t]he written description uses the terms ‘evolve’ and ‘liberate’ several times and, in each instance, the terms are used to describe the emission of hydrogen sulfide from a liquid hydrocarbon, particularly petroleum residua.” *See also Honeywell Int’l., Inc. v. IIT Industries, Inc.*, 452 F.3d 1312, 1315, 1318 (Fed. Cir. 2006) (holding that “fuel injection system component” with “a polymer [material] having electrically conductive fibers distributed randomly throughout” is limited to a fuel filter where “[t]he fuel filter was the only component of an EFI system that the written description disclosed as having a polymer housing with electrically conductive fibers interlaced therein.”).

Here, the subject Specification makes it plain that imperviousness of the barrier layer is measured with respect to the barrier layer’s capability of preventing absorption of the adhesive silicone gel coating into the fabric substrate”, not imperviousness as to anything (Spec. 1: 24-28). The barrier

layer thickness is disclosed as being chosen to ensure that an impervious layer is formed, that is, thick enough so that fabric surface hairs are encapsulated so they do not act as wicks, such as 0.05 to 0.5 mm (50 - 500 microns) thick (Spec. 2: 15-25; 11: 18-23). In this regard, Appellants' Specification conveys that the impervious barrier layer functions so the silicone gel does not penetrate through the fabric surface; that is, the barrier layer is impervious to the silicone gel coating penetrating its thickness (Spec. 8; 17-19; 11: 18-24; 13: 11-15). This is consistent with Appellants' interpretation of this contested claim limitation at the time of the introduction thereof via an amendment filed on January 08, 2008³, as noted above.

Also, Appellants have not reasonably established that the presence of some vent holes in the layer sheet to "maintain breathable condition", as disclosed in paragraph 0036 of Nakamura, would necessarily result in the film layer exuding adhesive of the adhesive layer 12 through the thickness of the film to the cloth. This is particularly so given that representative claim 1 does not require the adhesive layer to be co-extensive with the barrier layer. Indeed, the subject Specification recognizes the use of a discontinuous adhesive layer, such as an adhesive layer containing small holes for air permeability, as within the scope of the subject claimed adhesive fabric (*see* the sentence bridging pages 4 and 5 of the Spec.). Thus, the film layer can perform as a barrier to absorption of cured adhesive into the cloth, at the same time vent holes may be provided therein.

³ Amend. 'Jan. 08, p. 8; see Request for Continued Examination (RCE) Transmittal (Item 1).

Consequently and unlike Appellants, we interpret the claim term “impervious barrier layer” as allowing for some added vent holes for breathability purposes in the film (barrier) layer as called for in the preferred embodiment vent hole-containing layer sheet of Nakamura, while retaining imperviousness to adhesive migration (para. 0036).

Moreover, even if we could have agreed with Appellants’ argued claim interpretation, Appellants have not reasonably explained why Nakamura would have been interpreted by one of ordinary skill in the art as requiring vent holes under all circumstances wherein a layer sheet is made for application to a cloth. In this regard, we note that providing for venting of the layer sheet reasonably appears to be an optional, preferred, and auxiliary aspect of the Nakamura disclosure that one of ordinary skill in the art would have recognized as being obvious to omit from the layer sheet with its corresponding function.

CONCLUSION

Upon reconsideration of the Examiner’s obviousness rejection taking due consideration of the arguments furnished in the Appeal Brief and Reply Brief, Appellants have not apprised us of error in the Examiner’s obviousness determination over the combined teachings of Nakamura and Furuno based on the alleged distinctions between the barrier layer requirements specified by appealed claim 1 and the film layer taught or suggested by Nakamura. Consequently and on this appeal record, we determine that claimed subject matter would have been obvious to one of ordinary skill in the art based on the teachings of Nakamura and Furuno.

ORDER

The Examiner's decision to reject claims 1-3 and 20-47 under 35 U.S.C. § 103(a) as being unpatentable over Nakamura in view of Furuno is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(v).

AFFIRMED

kmm

MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE, NW
WASHINGTON, DC 20004